runs. The assumptions in this simulation included the characteristics of existing capacity, the availability of fuel, demand forecast for the planning horizon year and availability of funds.

There were many combinations of cases depending on the assumptions and the scenario of interest. However this paper is not designed to discuss details in deriving to the least cost plan but have started from a historical result/data conducted in a study in October 1995.

CHAPTER 3

RESEARCH METHODOLOGY

The first section will be based on literatures and updating the past findings (Males, 1985, Geraghty, 1987, Kellerman 1985)) in the context of Malaysia and TNB. The second section on sensitivity will look at the present least cost plan and with the assumption that this plans will be implemented, TNB will look at the parameters that will influence the cost of production.

The least cost plan was obtained through the WASPIII simulation. The important criteria in determining the least cost plan is the reliability criteria. In TNB the reliability criteria used is the LOLP or Loss-of-load probability of 1day/year. This is a technique of examining the probabilities of simultaneous outages of generating units, that together with a model of daily peak loads determines the number of days per year of expected capacity shortages. the result is a LOLP index which provides a consistent and sensitive measure of generation reliability. The term probability is rather a misconcept. firstly it is not a probability but an expected value of the number of days per year of capacity deficiency, secondly, it is not a loss of load, but rather a defiency in the installed available capacity.

In addition to the criteria there were also assumptions in performing the